

FIG. 1A

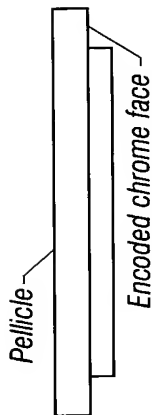


FIG. 1B

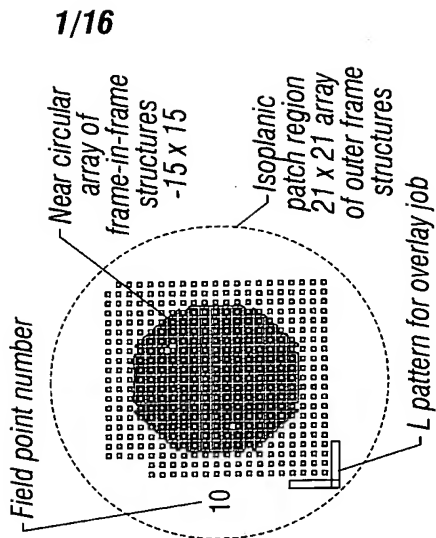


FIG. 1C



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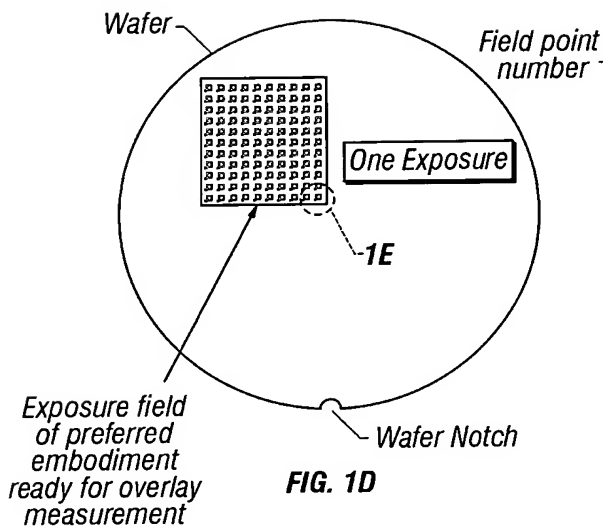


FIG. 1D

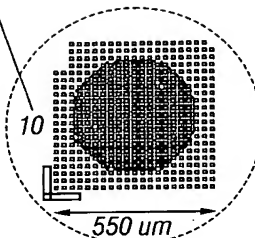


FIG. 1E

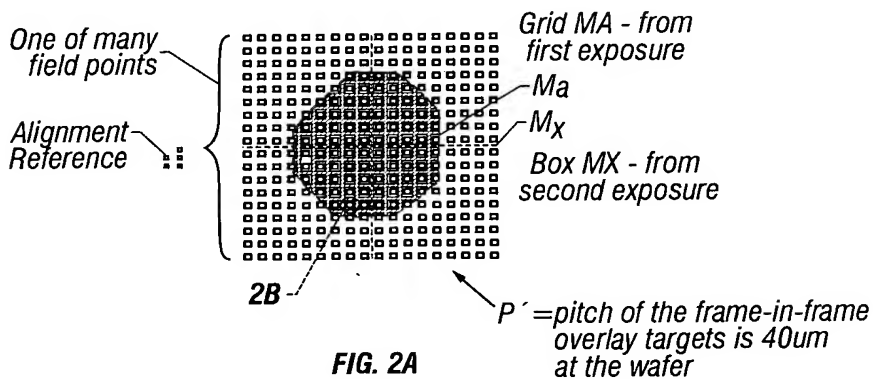


FIG. 2A

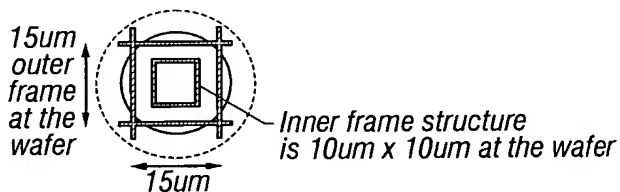


FIG. 2B

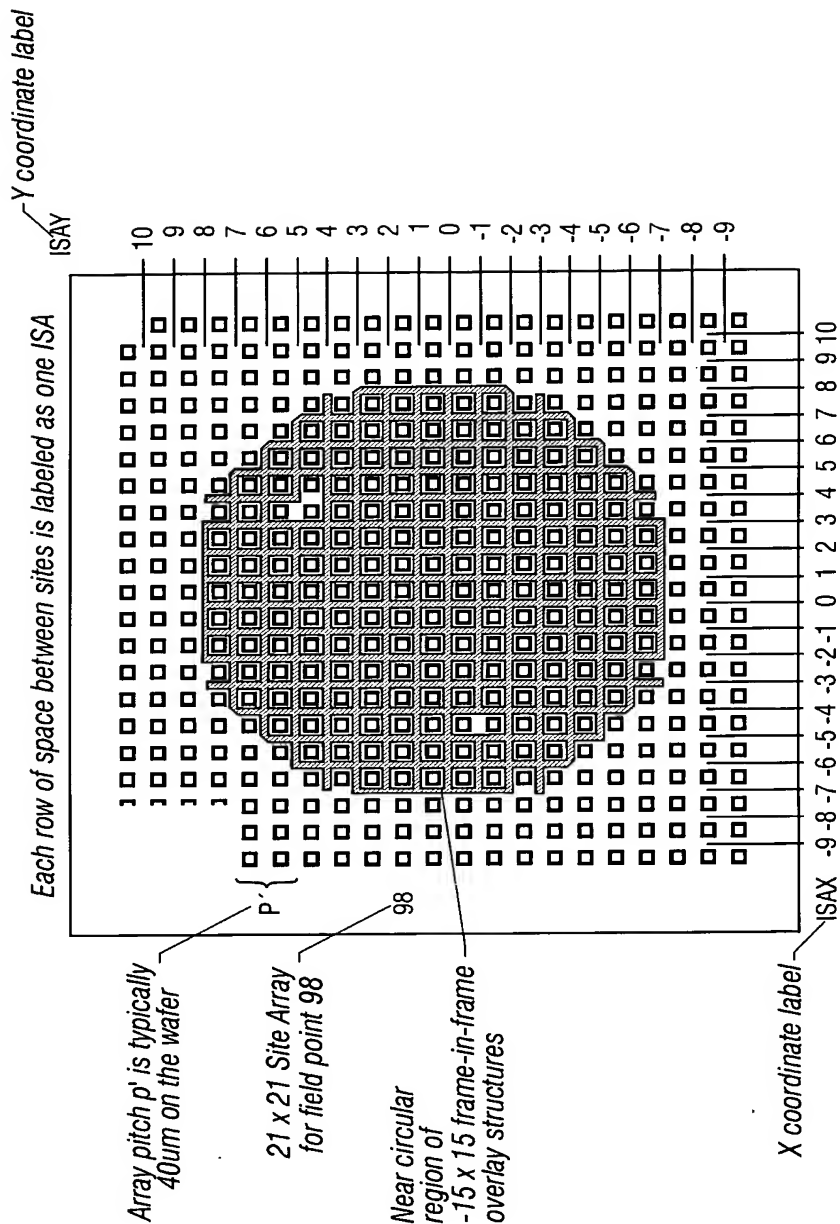
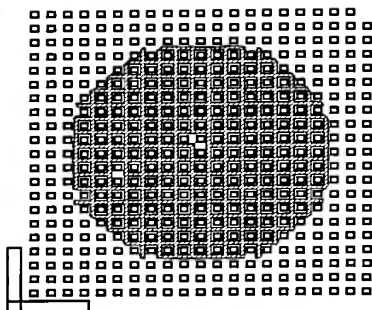


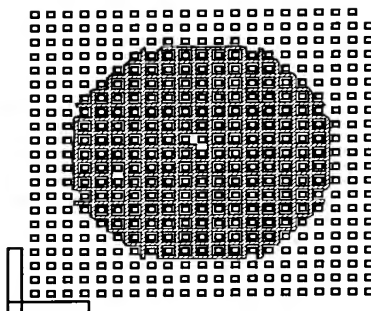
FIG. 3

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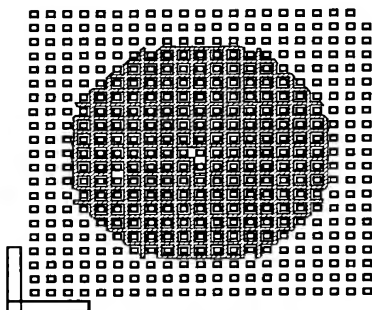
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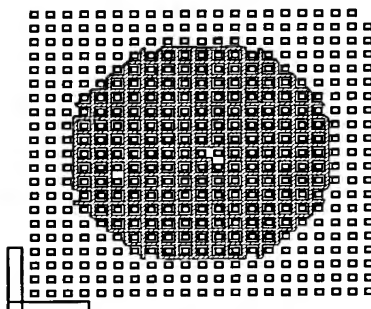
65



66



55



56

FIG. 4A

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Field point 98 has the following coordinates:
IXFP=8, IYFP=10

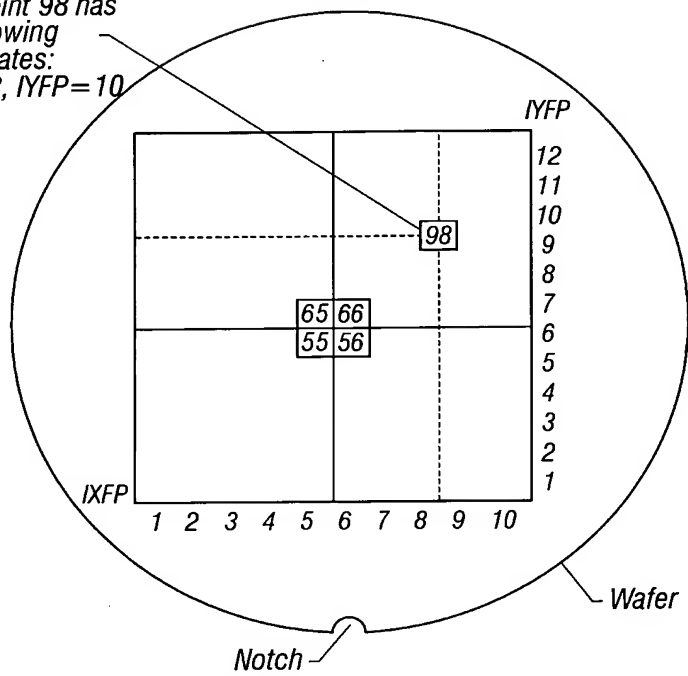


FIG. 4B

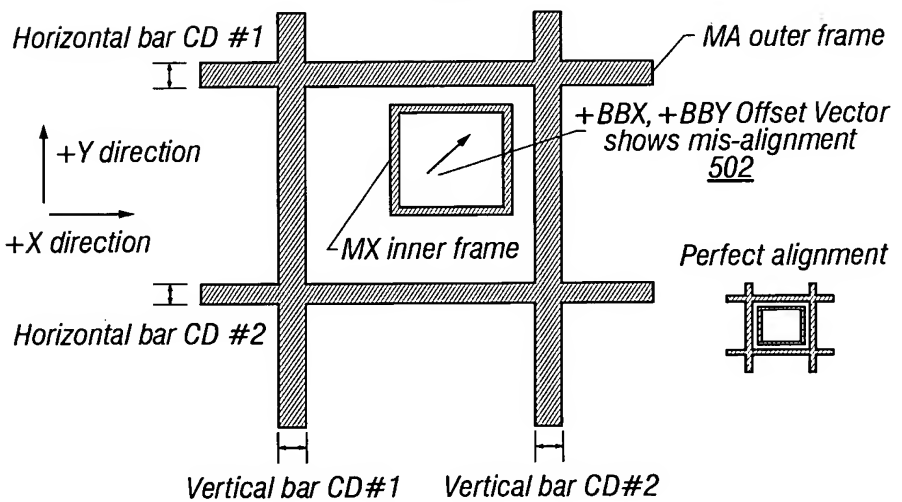


FIG. 5A

$CD(\text{near edge}) < CD(\text{near center})$
Frame on edge is thinner than center

Typical field point array
for the "ISI" reticle
as printed on a wafer

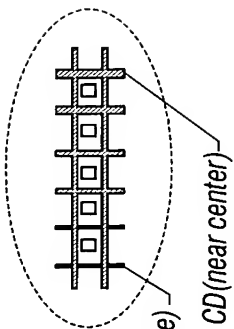
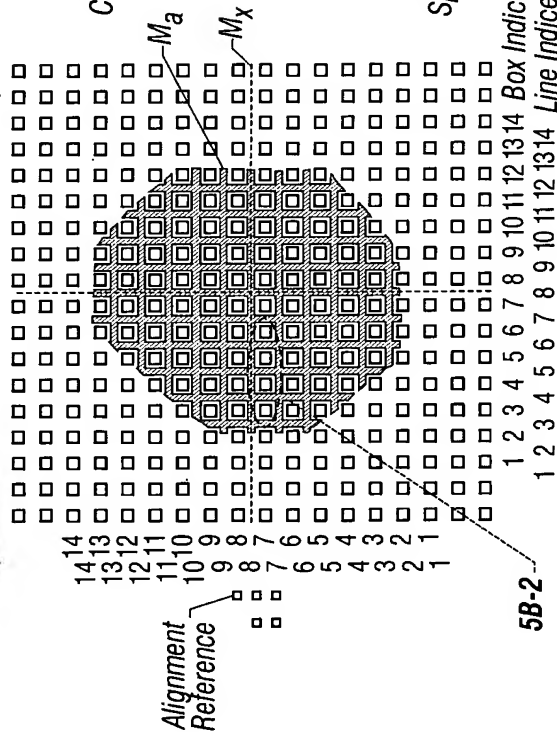


FIG. 5B-2



Overlay
measurements
using CD or edge
techniques

Overlay
measurements
using space
techniques

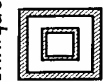


FIG. 5B-4

FIG. 5B-3

FIG. 5B-1



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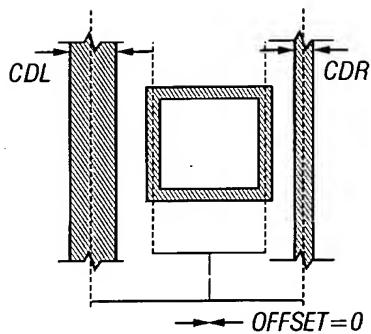


FIG. 5C

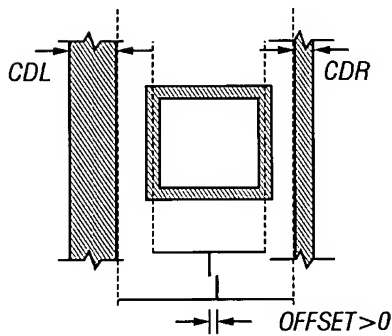


FIG. 5D

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21 x 21 array of outer
frame structures for
this site array

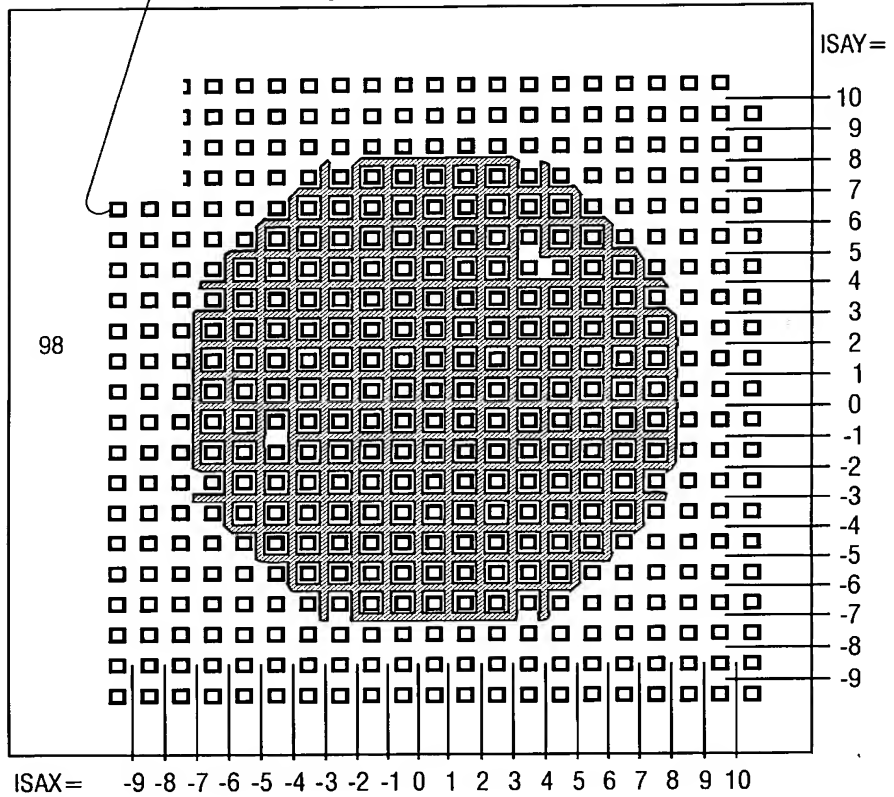


FIG. 6

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FIG. 7

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
BBx																					
BBy																					
18																					
17																					
16																					
15																					
14																					
13																					
12																					
11																					
10																					
9																					
8																					
7																					
6																					
5																					
4																					
3																					
2																					
1																					

$FP = 98$
 $IX_0 = 14$
 $NY_0 = 15$
 $DS/DSQ_W = 0.0625$

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$IX0$ =position within 21 x 21 array where $(BBx, BBy) = (0,0)$ occurs
 $IY0$
 FP =field point number

IY =Row

12	7 17 111	8 17 112	9 17 113	10 17 114	11 17 115	12 17 116	13 17 117	14 17 118	15 17 119	16 17 120
11	7 16 101	8 16 102	9 16 103	10 16 104	11 16 105	12 16 106	13 16 107	14 16 108	15 16 109	16 16 110
10	7 15 91	8 15 92	9 15 93	10 15 94	11 15 95	12 15 96	13 15 97	14 15 98	15 15 99	16 15 100
9	7 14 81	8 14 82	9 14 83	10 14 84	11 14 85	12 14 86	13 14 87	14 14 88	15 14 89	16 14 90
8	7 13 71	8 13 72	9 13 73	10 13 74	11 13 75	12 13 76	13 13 77	14 13 78	15 13 79	16 13 80
7	7 12 61	8 12 62	9 12 63	10 12 64	11 12 65	12 12 66	13 12 67	14 12 68	15 12 69	16 12 70
6	7 11 51	8 11 52	9 11 53	10 11 54	11 11 55	12 11 56	13 11 57	14 11 58	15 11 59	16 11 60
5	7 10 41	8 10 42	9 10 43	10 10 44	11 10 45	12 10 46	13 10 47	14 10 48	15 10 49	16 10 50
4	7 9 31	8 9 32	9 9 33	10 9 34	11 9 35	12 9 36	13 9 37	14 9 38	15 9 39	16 9 40
3	7 8 21	8 8 22	9 8 23	10 8 24	11 8 25	12 8 26	13 8 27	14 8 28	15 8 29	16 8 30
2	7 7 11	8 7 12	9 7 13	10 7 14	11 7 15	12 7 16	13 7 17	14 7 18	15 7 19	16 7 20
1	7 6 1	8 6 2	9 6 3	10 6 4	11 6 5	12 6 6	13 6 7	14 6 8	15 6 9	16 6 10
	1	2	3	4	5	6	7	8	9	10

IX =Col

FIG. 8

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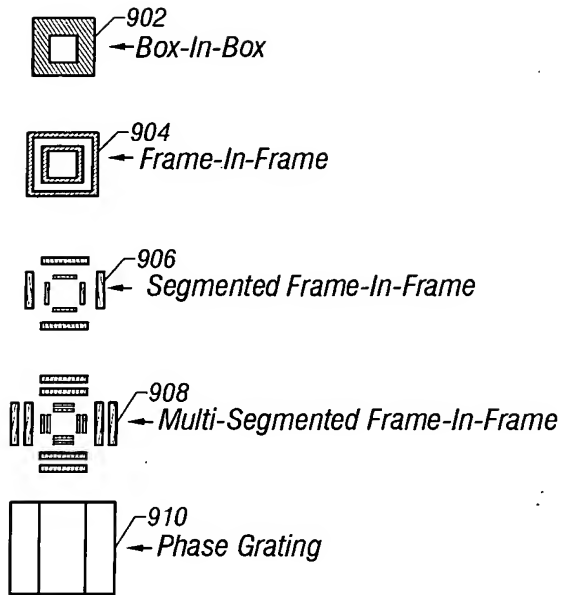


FIG. 9

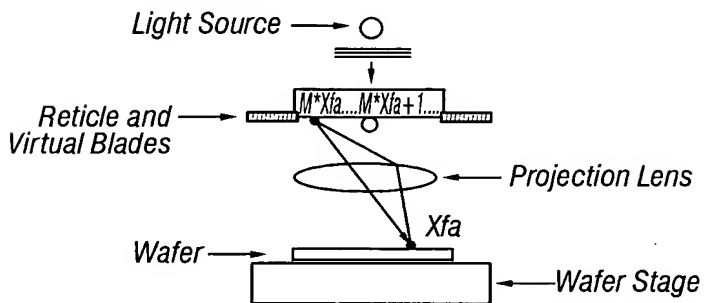


FIG. 10

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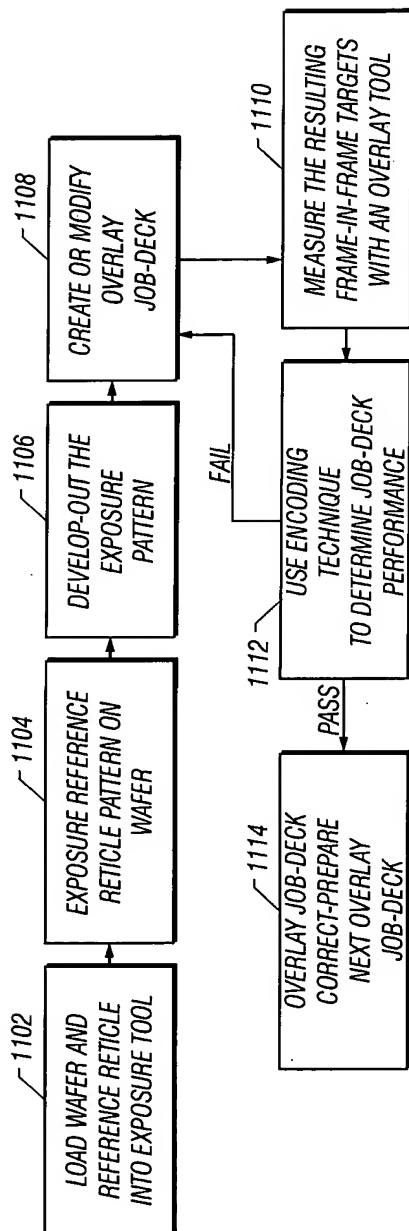


FIG. 11



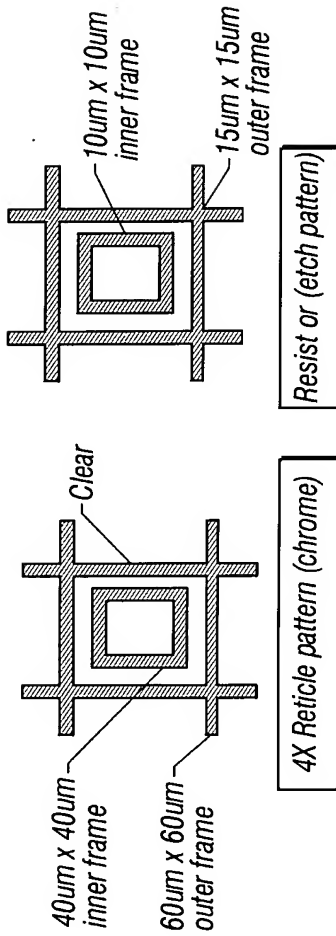
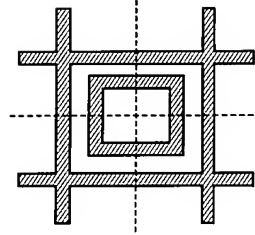


FIG. 12



Centered Frame-in-Frame structure
No shift: ISAX=0, ISAY=0

FIG. 13



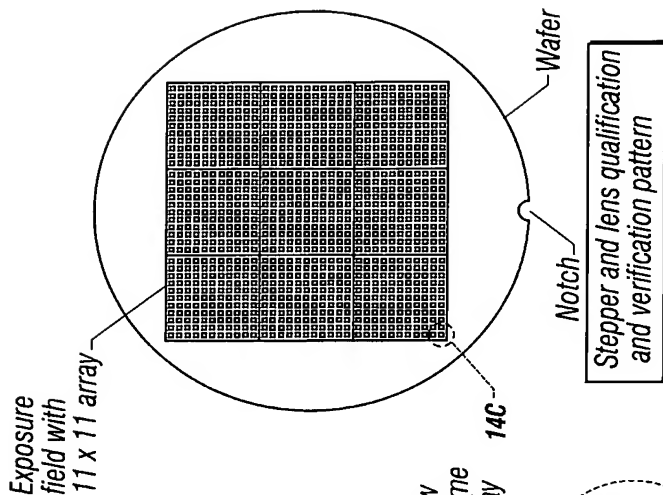


FIG. 14B

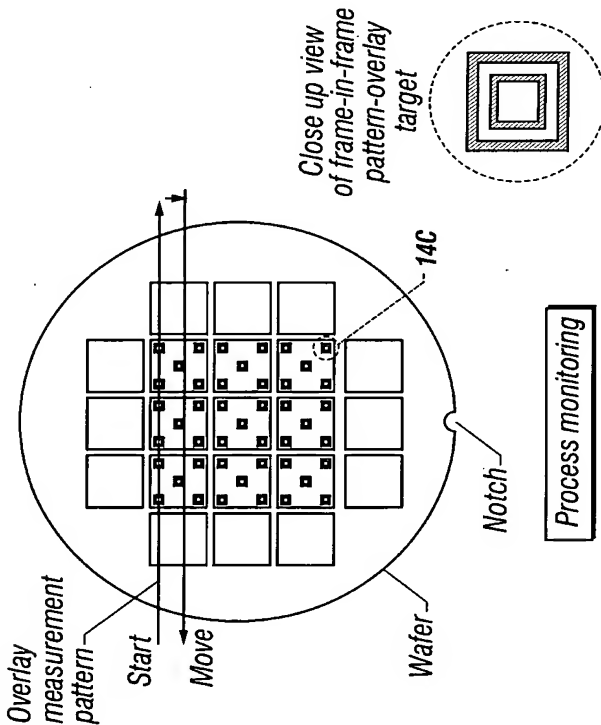


FIG. 14A

Close up view of frame-in-frame pattern-overlay target

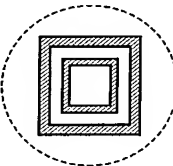


FIG. 14C



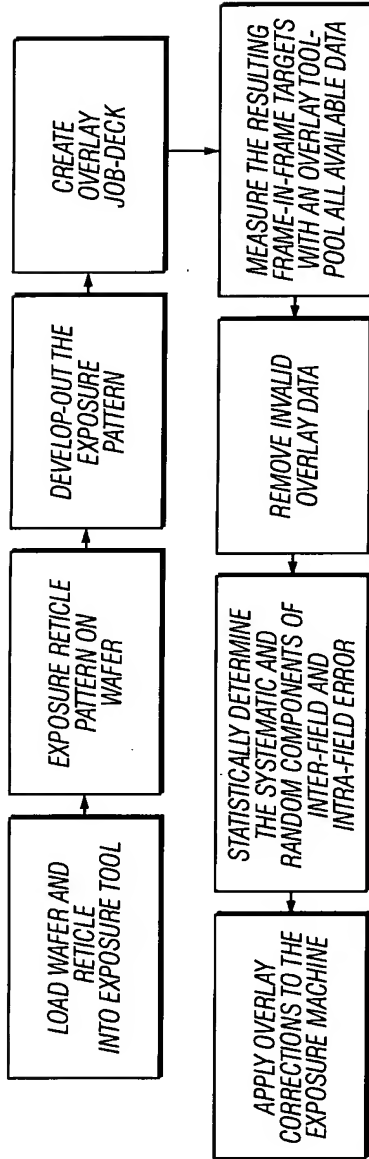


FIG. 15A

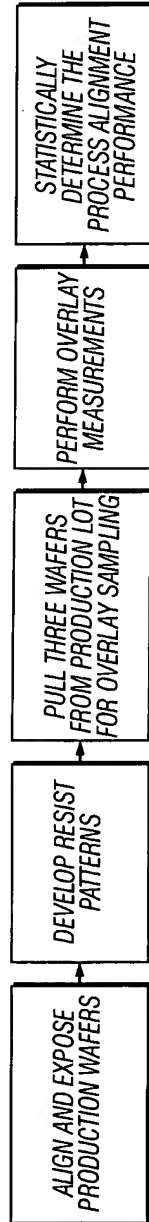


FIG. 15B



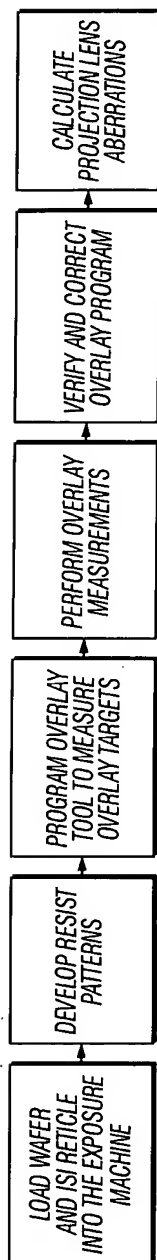


FIG. 15C

